

Claims

1. A bandage cooling apparatus comprising:
 - a) a bandage having a first temperature;
 - 5 b) a container containing a gaseous fluid and having an exit;
 - c) a casing comprising a chamber which contains said bandage, an inlet and outlet which both define passages from said chamber and through said casing, said outlet having a removable lid;
 - d) a valve connecting said inlet of said casing to said exit of said container;
 - 10 e) an actuator to operate said valve;whereby a portion of said gaseous fluid expands from said container into said chamber through said valve upon operation of said actuator, such that said bandage gets to a second temperature which is different from said first temperature.
- 15 2. A bandage cooling apparatus as claimed in claim 1, wherein said second temperature is lower than said first temperature.
3. A bandage cooling apparatus as claimed in claim 2, wherein said gaseous fluid is HFC134a (tetra-fluoro-ethane).
- 20 4. A bandage cooling apparatus as claimed in claim 1, wherein said container is an aerosol.
5. A bandage cooling apparatus as claimed in claim 1, wherein said actuator is a plunger inside said casing, said plunger being manually operated via said removable lid.
- 25 6. A bandage cooling apparatus as claimed in claim 5, wherein said plunger includes inner channels connected to said exit of said valve.
- 30 7. A bandage cooling apparatus as claimed in claim 6, wherein said channels are in communication with said chamber through openings on said plunger.

8. A bandage cooling apparatus as claimed in claim 1, wherein said actuator includes temperature sensors to control said valve.
- 5 9. A bandage cooling apparatus as claimed in claim 1, wherein said actuator is manually operated.
- 10 10. A bandage cooling apparatus as claimed in claim 1, wherein said actuator has a first position and a second position, said apparatus being operated when said actuator moves from said first position to said second position and said actuator being put back to said first position by resilient means after operation of said apparatus.
11. A bandage cooling apparatus as claimed in claim 1, wherein said bandage is disposable.
- 15 12. A bandage cooling apparatus as claimed in claim 1, wherein said bandage is reusable.
13. A bandage cooling apparatus as claimed in claim 1, wherein said bandage is rolled in said casing.
- 20 14. A bandage cooling apparatus as claimed in claim 13, wherein said casing is cylindrical.
- 25 15. A bandage cooling apparatus as claimed in claim 1, wherein said bandage is an elastic compression bandage.
16. A bandage cooling apparatus as claimed in claim 1, wherein said bandage incorporates gel on at least one of its surfaces.

17. A bandage cooling apparatus as claimed in claim 16, wherein said bandage includes a temperature control material on one of its surface.
- 5 18. A bandage cooling apparatus as claimed in claim 1, wherein said bandage incorporates a plurality of gel containers.
19. A bandage cooling apparatus as claimed in claim 1, wherein said bandage incorporates a conduit matrix containing gel.
- 10 20. A bandage cooling apparatus as claimed in claim 19, wherein said apparatus further comprises a tube between said container and said conduit matrix.
21. A bandage cooling apparatus as claimed in claim 20, wherein said actuator includes at least one temperature sensor to control said valve.
- 15 22. A bandage cooling apparatus as claimed in claim 1, wherein said bandage incorporates a temperature controlling gel on at least one of its surfaces.
- 20 23. A bandage cooling apparatus as claimed in claim 1, wherein said container is generally fixedly located in a cavity of said casing.
24. A bandage cooling apparatus as claimed in claim 23, wherein said actuator is operated by pressing on said container
- 25 25. A bandage cooling apparatus as claimed in claim 23, wherein said casing contains inner channels connected to said inlet of said casing and in communication with said chamber through holes.

26. A bandage cooling apparatus as claimed in claim 25 wherein said casing further includes arms connected to said inner channel, said arms containing inner channels and holes and protruding in said chamber.
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27. A bandage cooling apparatus as claimed in claim 23, wherein said inlet and said outlet of said casing has layers to seal said chamber.
28. A bandage cooling apparatus as claimed in claim 1, wherein said outlet includes a bandage dispensing outlet and a bandage reinsertion outlet.
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29. A bandage cooling apparatus as claimed in claim 28, wherein said actuator is located near said bandage dispensing outlet.
30. A bandage cooling apparatus as claimed in claim 29, wherein said actuator is a hollow member having an inner channel in communication with said chamber through a plurality of openings.
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31. A bandage cooling apparatus as claimed in claim 30, wherein said openings are oriented toward said bandage.
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32. A bandage cooling apparatus as claimed in claim 31, wherein said apparatus comprise an arm having a first position covering said openings and a second position away from said openings.
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33. A bandage cooling apparatus as claimed in claim 32, wherein said arm is movably operated by pulling said bandage out of said apparatus.
34. A bandage cooling apparatus as claimed in claim 33, wherein said apparatus further comprises a cutter in the vicinity of said bandage dispensing outlet.
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35. A bandage cooling apparatus as claimed in claim 1, wherein said apparatus is portable.

5 36. A method for using a bandage cooling apparatus which includes a hollow casing containing a bandage and connected to a container which contains a gaseous fluid, said container being operated by an actuator such that said gaseous fluid is released from said container inside said casing, comprising the steps of:

- a) operation of said actuator;
- b) emission of said gaseous fluid inside said casing;
- 10 c) change of temperature of said bandage.

37. A bandage cooling apparatus for cooling a bandage from a first temperature to a second, lower temperature comprising:

- a) a container containing a gaseous fluid and having an outlet;
 - 15 b) a casing comprising a chamber configured and sized to receive the bandage to be cooled, an inlet and outlet that both define passages from said chamber and through said casing, said outlet having a removable lid;
 - c) a valve connecting said inlet of said casing to said outlet of said container;
- whereby a portion of said gaseous fluid expands from said container into said chamber
- 20 through said valve, such that the bandage gets to the second temperature.